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AN EVALUATION OF THE MOBLEY, HORNER, HOLLINGSWORTH MODEL OF EMP--ETC(U)  
JAN 79 H E MILLER, R KATERBERG, C L HULIN

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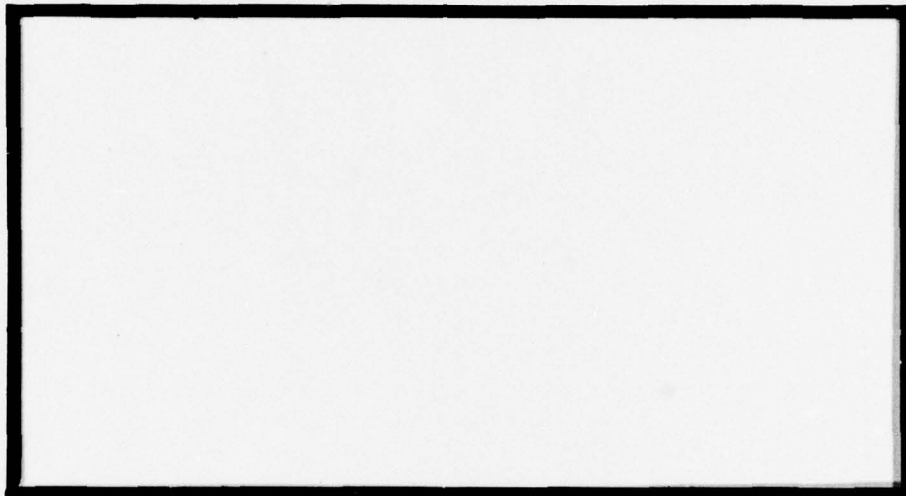
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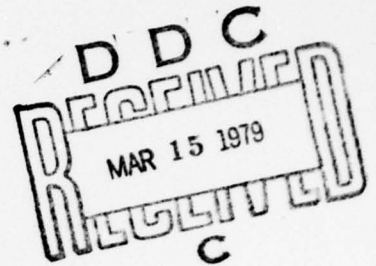
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AN EVALUATION OF THE MOBLEY, HORNER,  
HOLLINGSWORTH MODEL OF EMPLOYEE TURNOVER:  
VALIDATION DATA AND SUGGESTED MODIFICATIONS

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Technical Report 79-1  
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### Abstract

The validity of a simplified model of turnover (Mobley, Horner, & Hollingsworth, 1978) was investigated. Attitude measures and turnover were collected from two samples of military personnel in a predictive design. Results generally support the validity of the model. Modifications are offered to counter inconsistencies between data and the model.

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Considerable interest has been directed recently towards delineating the processes leading to voluntary turnover (Fishbein, 1967; Graen & Ginsburgh, 1977; Locke, 1976; Mobley, 1977; Porter & Steers, 1973). A contribution toward that end is provided by Mobley and his associates (Mobley, 1977; Mobley, Horner, & Hollingsworth, 1978). Drawing upon the work of March and Simon (1958) and Locke (1976), Mobley (1977) proposed a process model that identified several probable antecedents of turnover in a causal order. Major components of the model include job satisfaction, cognitions about quitting, intention to quit, and actual turnover. A simplified model and some validating evidence was presented by Mobley et al. (1978). However, some problems in their data and analyses prompt need of further validation. The purpose of this investigation was to test the validity of a simplified model of turnover using more rigorous analyses with potentially stronger data.

Mobley (1977) proposed that several intermediate steps exist between job dissatisfaction and turnover. Dissatisfaction was proposed to stimulate thoughts of quitting, that in turn lead to an evaluation of the utility of searching for alternative work, then to search behavior, evaluation of work alternatives, intention to quit, and finally the act of resignation. Implicit in the model is conditional causality rather than direct causality. That is, job dissatisfaction does not always lead to turnover but does so

conditional upon favorable search utility, successful search, attractive work alternatives and action towards resignation. The probable existence of feedback loops was acknowledged but not specified in the model.

In testing the model Mobley et al. (1978) chose to focus on perceptual components leading to intention to withdraw and actual withdrawal, ignoring search behaviors and evaluation of uncovered alternatives. Thus job satisfaction was hypothesized to affect directly thinking of quitting, intention to search, and intention to quit. In turn, thinking of quitting should affect directly intention to search, and intention to search should affect intention to quit. Only intention to quit was proposed to affect actual turnover directly. In addition, the probability of finding an acceptable alternative was hypothesized to affect directly intentions to search and to quit, and a standardized composite of age and tenure was posited to affect directly the probability of finding an acceptable alternative and job satisfaction.

Mobley et al. (1978) performed a series of regression analyses with data from 203 full-time employees working in a southeastern urban hospital. The base rate of turnover was 10% with a lag of 47 weeks after attitude assessment. Thinking of quitting, intention to search, intention to quit, and turnover were regressed on antecedent measures according to the model. Significant regression coefficients consistent with paths specified by the model were interpreted as support for model validity.

Results generally supported the hypothesized relationships with several qualifications. Age/tenure appeared to have direct relationships with intention to search and to quit, rather than indirectly as hypothesized. Probability of finding an acceptable alternative was related directly to thinking of quitting but not intention to search. Thinking of quitting exhibited little relationship with intention to search. Finally, job satisfaction did not have a direct relationship with intention to quit. However, their assertion that age-tenure, probability of finding an acceptable alternative, and job satisfaction would influence turnover only through intentions was clearly supported.

Two limitations in their results must be noted. First, the base rate of turnover (10%) restricted the possible strengths of relationship with their predictors due to restriction in variance on the criterion. This is especially critical because the lack of direct relationships of all predictors save intention to quit with turnover may be due in part to restricted criterion variance. Second, Mobley, et al. (1978) rely heavily on interpreting significance and magnitude of standardized regression coefficients in evaluating model validity. Regression coefficients are notoriously unstable when predictors are not independent and samples are small (Cooley & Lohnes, 1962; Darlington, 1968; Dorans & Drasgow, 1978). Although their sample was not small, considerable collinearity existed among predictors and they failed to cross-validate derived regression weights.



The independent variables examined by Mobley et al. (1978) may be grouped conveniently into three classes of constructs: job satisfaction, withdrawal cognition, and career mobility. The satisfaction construct is self-evident, with major focus on affective reactions to the job content and context. In the present study a measure of work satisfaction was included with overall job satisfaction to represent this construct. This is appropriate because the model has major emphasis on job determinants of turnover, and strong consistent relationships have been documented between work satisfaction and turnover (Hom, Katerberg, & Hulin, in press; Hulin, 1966; Porter & Steers, 1973). Withdrawal cognition includes thinking about quitting, intention to search, and intention to quit. Item measures of each facet were available for use in this study. Finally, career mobility includes age and tenure as surrogate measures, and probability of finding acceptable alternative work as a direct representative. As employees age, their mobility for frequent job changes may decline with increased non-organizational responsibilities (i.e., family, other commitments). Similarly, if past behavior predicts future behavior, then long tenure employees may be expected to remain with the organization longer than short-tenure employees. More specifically, tenure may reflect accumulated investment in retirement credit, pension, and other similar benefits. Thus older and longer tenure employees should exhibit a lower propensity to quit than their counterparts. Measures of age, tenure, and perceived chance of obtaining acceptable alternate work were available for consideration in this study.

The advantages of identifying the three classes of constructs are two-fold. First, the Mobley et al. (1978) results are not all consistent with predictions for specific model components but are when hypotheses are simplified to the level of the three construct classes. The replicability of the consistent aspects of their model may then be hypothesized and tested in terms of the three construct classes, with supplemental analyses to determine if relationships among specific model components are as they hypothesized, but only partially supported in their data. Second, by grouping individual variables that are often measured by single items or scales into construct classes, the reliability of assessing the hypothesized construct is considerably enhanced over that of the individual items. This allows for a stronger and more fair test of proposed differential relationships between model components and the criterion.

It was hypothesized that a) withdrawal cognition would have a direct relationship on turnover, b) job satisfaction would influence turnover only through its effect on withdrawal cognition, and c) career mobility would influence turnover only through its relationship with job satisfaction and withdrawal cognition.

#### Method

##### Samples and Assessment Procedures

Sample I. Data, including measures of job satisfaction, withdrawal cognition, and demographic variables, were gathered from 1169 National Guard members as part of a state-wide study of influences on reenlistment

decisions. Members of 29 geographically dispersed units constituted the original sample. Only those members who had an opportunity to make reenlistment decisions were included in the analyses in this study. Two hundred and fifty five members made reenlistment decisions but because of missing data on the items of interest, 20 individuals were eliminated from the sample leaving a sample of 235.

Questionnaires were administered in groups of 30 or 40 at local unit armories by graduate assistants. Arrangements for data collection were made through state National Guard Headquarters and company commanders were informed of the nature and purpose of the survey well in advance of data collection. An effort was made to include all available personnel in the selected units, and with few exceptions all but those with pressing duties participated. Social security numbers were requested on the questionnaire for purposes of follow-up on reenlistment decisions. Confidentiality of individual responses, however, was promised and maintained.

The average age of Guard members in Sample I was 28 years, and average tenure was slightly less than 6 years. Median education level was some college work and nearly all had high school diplomas. Students constituted 21% of Sample I, the majority were males (96%) and 80% identified themselves as Caucasian.

Sample II. Similar data were collected from a second sample of 535 National Guard members from the same state during their annual summer training. Of 535 original questionnaires, 484 were returned in usable form, the remaining 51 being eliminated because of excessive missing data. Guard members

were selected for participation if, according to organizational records, a decision to reenlist fell within the following year. Social security numbers were again requested for follow-up on reenlistment decisions. Again, confidentiality of individual information was promised and maintained.

Surveys were administered by one of the authors and an officer in the National Guard during a period in which several units were involved in annual training in a nearby state. Guard members were scheduled for participation in the survey as part of a half day reenlistment awareness program. Surveys were administered in groups of 10 to 30 in classroom-like facilities. Both verbal and written instructions stressed confidentiality and participants were instructed to place and seal their completed questionnaires in envelopes addressed to one of the authors at the University of Illinois. The sealed envelopes were then collected and immediately mailed after each session.

Average tenure for this sample was 5 years, and 88% of the sample were first-term enlistees. Average age was 27 years. Median education level was some college, and nearly all were high school graduates. At the time of the survey, 16% of the sample were students. Males constituted 97% of the sample and 85% classified themselves as Caucasians.

#### Measures

Turnover information on both samples was obtained from Guard records six months after completion of survey assessments.



Two measures of job satisfaction were employed, the Job Descriptive Index Work scale (Smith, Kendall, & Hulin, 1969) and a G.M. Faces Format item (Kunin, 1955) assessing feelings towards the Guard in general. Probability of finding an alternate job was measured with an item that read, "What are your chances of obtaining a part-time civilian job with similar pay and benefits as you receive in the Guard?" Thinking of quitting was assessed with, "How often do you think about leaving the Guard?" Intention to search was assessed with, "How likely is it that you would seek a part-time job if you were not in the Guard?" Intention to quit was assessed by, "What are the chances that you will re-enlist in the Guard when your present enlistment expires?" Intention to quit was measured on a 7 point scale and the other attitude items were measured on 5-point Likert scale with appropriately worded anchors.

#### Analysis

The simplified version of the Mobley et al. (1978) turnover model was tested using hierarchical regression procedures, with double-cross validation of raw least squares regression coefficients derived from the two independent samples. In applying hierarchical regression procedures to this problem we assumed that variables asserted to have direct relationships with the criterion will contribute significant variance to regression beyond that provided by variables asserted to have indirect relationships with the criterion but variables with indirect relationships will contribute insignificant variance to regression beyond that of direct-link variables. Although significance tests of regression coef-

ficients and variance increments to regression lead to identical conclusions, the magnitude of contribution may be interpreted from the change in  $R^2$ , rather than from size or direction of regression coefficients. Relationships among withdrawal cognition, job satisfaction, and career mobility in predicting turnover were examined on this logical basis.

Secondary analyses of correlations among specific model components were performed to discern relationship patterns consistent with the Mobley et al. (1978) model. For any one model component, other components hypothesized to have direct links with that component should exhibit significantly stronger relationships with that component than components not directly linked. For example, Mobley et al. (1978) hypothesized that thinking of quitting is linked directly with intention to search, but age is not linked with intention to search. Support for this hypothesis exists if the correlation between thinking of quitting and intention to search is significantly different from and exceeds in absolute magnitude the correlation of age with intention to search. An appropriate statistic to test for differences among dependent correlations of random effects is reported by Humphreys (1976). Each model component may be examined in turn, comparing its correlation with each direct-link component against its correlation with each indirect-link component for significance of difference and (ignoring sign) relative strength. The greater the proportion of times direct-link correlations meet these dual criteria in comparison with indirect-link correlations

for a model component, the more likely it is that the component enters into the network of withdrawal construct relationships as specified by the model. The two samples were combined for the secondary analyses to provide greater sensitivity in discerning patterns of relationships among components.

### Results

Means and standard deviations of all measures for the two samples are presented in Table 1. Sample I respondents were older ( $t = 3.18$ ), were more satisfied with their work ( $t = 1.99$ ) and the Guard in general ( $t = 4.51$ ), and thought less about quitting ( $t = 2.75$ ) than respondents in sample II ( $p < .05$  for these four comparisons). The samples did not differ in turnover rate, tenure, perceived chance of obtaining a comparable job, or intentions to search or quit. Turnover base rates of 47% and 50% in samples I and II respectively provided near maximum variance possible for analysis of relationships with other model components. This avoids the potential problem in Mobley et al.'s. (1978) data of restricted criterion variance.

Correlations among the variables for the two samples are presented in Table 2. Sample I intercorrelations appear below the diagonal and sample II correlations appear above the diagonal. All variables except tenure were consistently related to turnover across samples. Age and satisfaction related negatively with turnover whereas chance of obtaining an alternate job, thinking of quitting, and intentions to search and to quit related positively with turnover. Surrogate measures for career mobility, age and tenure, were positively related in both samples but neither

related significantly with perceived chance of obtaining an alternate job. Age related positively to satisfaction and negatively to withdrawal cognitions in both samples, but tenure and chance of obtaining an alternate job exhibited few stable or consistent relationships in either sample. Work and general satisfaction were strongly and consistently related to each other and to measures of withdrawal cognition across samples except in their correlations with intention to search in sample I. Finally, the three withdrawal cognition measures were consistently and positively correlated across samples. Overall the pattern of relationships among variables appeared quite consistent between sample I and sample II and were generally consistent with those reported by Mobley et al. (1978).

Results of hierarchical regression analyses, employing the three construct groups to predict turnover, are presented in Table 3.

The general procedure was to regress turnover on the variable(s) listed under "model" in Table 3 first, then compute the increment and significance of variance contributed by each remaining variable(s) when entered in the regression after the "model" variable(s). Positive contributions were predicted for a) satisfaction and withdrawal cognition above career mobility, b) career mobility and withdrawal cognition above satisfaction, and c) withdrawal cognition above career mobility and satisfaction. No incremental contribution was predicted for a) satisfaction or career mobility above withdrawal cognition, b) satisfaction above career mobility



and withdrawal cognition, or c) career mobility above satisfaction and withdrawal cognition.

The hypotheses derived from Mobley et al. (1978) were supported with two exceptions. Contrary to prediction, career mobility contributed significant variance to regression beyond withdrawal cognition and beyond satisfaction and withdrawal cognition in sample II. Because this result was not obtained in sample I and indicated a relatively small, albeit significant, contribution in sample II, a conclusion of general support for the simplified model is suggested. In addition, raw regression weights from all "model" combinations cross-validated quite well on the complimentary sample, indicating stability of results within the context of these measures and this military organization.

Results of secondary analyses of correlation differences among direct-link and indirect-link model components are summarized in Figure 1.

Numbers within component boxes are the proportions of times the correlations of direct-link components exceeded in magnitude and differed significantly ( $p < .01$ ) from correlations of components linked indirectly to the component. Numbers appearing along lines linking components are the correlations between the linked components. When more than one measure was

used for the component (i.e. age/tenure, satisfaction) the numbers represent the average proportion/correlation for that component.

Of 124 comparisons of direct-link with indirect-link correlations across all components derived from the Mobley et al. (1978) model, 50 met the dual criteria that the direct-link correlation differed significantly from and exceeded in magnitude the indirect-link correlation. For comparative purposes, 43 correlation differences were significant but in the direction opposite from expectation (indirect-link correlation > direct-link correlation), and 31 differences were not significant. Rank-ordering components by proportion of significant differences in the direction expected from the Mobley et al. (1978) model results in the following: 1-turnover (6/7), 2-job satisfaction (13/24), 3-think of quitting (8/15), 4-intention to quit (7/15), 5-intention to search (6/15), 6-age/tenure (10/32) and 7-probability of finding an acceptable alternative (0/16). It is of interest that for the last component the number of significant relationships in the direction opposite to expectation was 10/16. From these proportions it appears that turnover, intention to quit and search, thinking of quitting, and the satisfaction measures generally exhibited a pattern of relationships consistent with the model. Components inconsistent with the model include probability of obtaining alternate work and, to some extent, age/tenure. Although the consistency of empirical relations in accordance with model specifications is not high, influences other than specification error (i.e. sample peculiarities, measurement error) may have attenuated the fit of the Mobley et al. (1978) model with our data.

### Discussion

The focus of this evaluation of the Mobley, Horner and Hollingsworth (1978) turnover model has been on the internal consistency of relationships among components. It was found that, when the model is simplified to three construct classes among predictors, withdrawal cognition exhibits a strong contribution to prediction of turnover independent of contributions by satisfaction and career mobility, but neither career mobility or satisfaction contribute substantively beyond withdrawal cognition. This is consistent with the results obtained by Mobley et al. (1978) and provides a rudimentary empirical foundation for assertions of model validity at this simplified three-construct level. That withdrawal cognition is or is not closer to the act of voluntary resignation than either satisfaction or career mobility cannot be resolved without turnover model parameters that specify the time intervals among the events leading to turnover and data collection procedures that can capture the events according to the model's substantive and perhaps fleeting temporal parameters. For example, what is the expected interval between a worker's feelings of dissatisfaction and translation of these feelings into intentions to search for another job? The interval could be as short as a few hours or as long as several months and probably varies as a function of job, environment, and individual characteristics. The difficulties of time interval specification will not be resolved in the immediate future, thus prohibiting empirical validation of causal orders among components. The relations among withdrawal cognition, satisfaction and career mobility in these data are,

however, consistent with the interpretation that withdrawal cognition is closer to turnover than either satisfaction or career mobility and that satisfaction influences turnover only through its influence on withdrawal cognition. Career mobility did contribute beyond withdrawal cognition and satisfaction to prediction of turnover albeit the contribution was small (3%) and occurred in just one sample. We have no reason to expect this result in one but not the other sample. If it is not spurious then career mobility may be linked directly to turnover in addition to its effects on withdrawal cognitions. For example, an individual may be dissatisfied with the job/organization and may think about quitting constantly, but because (s)he is close to retirement (reflected in age) (s)he will continue to re-enlist to retain pension benefits a few years away. In the March and Simon (1958) model of turnover major focus was given to potential environmental influences (e.g., economic conditions, availability of job alternatives) in turnover. These sources of influences were retained by Mobley et al. (1978) directly in the component, "perceived chance of finding an acceptable alternative," and indirectly by age and tenure. Neither Mobley et al.'s. item measure (perceived opportunity to find an acceptable alternative) nor our measure (perceived chance to obtain an acceptable alternative) related well with any other model components. Respondents may not know with any degree of confidence what job alternatives are available until they have undergone some search behavior. As both studies employed one-item measures the pro-



blem may simply be reliability of measurement. Alternatively, that construct may be coincident or subsequent to the affective, cognitive, and behavioral processes of turnover. Weick (1969) has suggested that the rationality of behavior often emerges after occurrence of the behavior. In the present samples respondents may not become aware of job alternatives until after they have already withdrawn or re-enlisted. From this argument and the weakness of results it appears that the model may suffer no loss by substitution of the perception of job alternatives with other measures of career mobility (i.e., involvement in family, economic investments).

Although tenure exhibited inconsistency in its relationships with model components across samples this may be attributed to organizational constraints on sample respondents. Turnover can occur (legally) only after 6 years for first-term Guard members. This is advantageous for predicting re-enlistment decision outcomes because the decision point is concrete, but constrains the amount tenure may contribute to prediction of future membership with past membership. Future consideration of tenure (and age) in turnover models should attempt to decompose the variance in tenure into potentially more direct influences on turnover (i.e. career mobility; lack of firing; seniority systems; closeness to retirement).

Intention to search exhibited weak relationships with several model components. Mobley (1977) indicated that not all model components may be relevant in all situations of withdrawal. That most Guard members have

other jobs in addition to their Guard roles may indicate that no substitute role was necessary to consider withdrawal from the Guard. If this is generally true for persons with more than one major social/economic role (i.e. part-time workers) but not for those with a single major role (i.e. full-time workers) is an empirical question.

A second mode to evaluate the Mobley et al. (1978) model is to contrast its relative power against other models to predict turnover. Hom, Hulin, and Katerberg (in press) contrasted three common models in their relative power to predict turnover and intention to quit using some of the same data base (from sample II) as the present study. They found that the Fishbein model (Fishbein 1967) was superior to a satisfaction model (Newman 1974) and an organizational commitment model (Porter, Crampon, & Smith 1976) in prediction of intention to re-enlist and actual re-enlistment. Of interest is that the magnitude of squared multiple correlation obtained with Mobley et al. (1978) model exceeded multiple correlations of all three models reported in Hom et al. (in press) ( $R^2_{\text{Mobley}} = .55$ ;  $R^2_{\text{Fishbein}} = .42$ ;  $R^2_{\text{Satisfaction}} = .30$ ;  $R^2_{\text{Commitment}} = .34$ ) in prediction of turnover. The multiple correlations are not independent because they are based in part on the same sample and in some cases the same measures, but it is clear that the Mobley et al. (1978) model was superior to the three models in predicting turnover in the data from sample II.

In conclusion, the simplified model of turnover discussed and tested by Mobley, Horner, and Hollingsworth (1978) was shown to be internally inconsistent at the level of specific model components, but consistent when simplified further to three classes of constructs: cognition, satisfaction, and career mobility. It was shown further that the model was a powerful tool for turnover prediction in its own right and in comparison to three common models applied to turnover prediction. It was suggested as a modification that perceived job alternatives be substituted by more extensive measures of career mobility (i.e., extent of economic investment, family involvement). Only the continual clash of theory and data will enable organizational science to develop more accurate and powerful models descriptive of behavior in organizations. Mobley and his associates have contributed a model that is conceptually rich and, in simplified form, has a strong empirical basis. Continued research employing their model with diverse samples and measures shows promise to contribute to our understanding of organizational withdrawal processes.

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Table 1  
Means and Standard Deviations of Turnover and Attitude  
Measures for Sample I and Sample II<sup>1</sup>

	Sample I		Sample II	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Turnover	1.47	0.50	1.50	0.50
Age	28.61	6.34	27.00	4.24
Tenure	5.81	4.46	5.15	2.74
JDI Work	23.17	14.58	20.51	13.94
General satisfaction	4.33	1.65	3.62	1.72
Chance of obtaining al-				
ternative job	2.85	1.34	2.66	1.23
Think of quitting	3.47	1.25	3.77	1.07
Intention to search	3.68	1.43	3.59	1.46
Intention to quit	4.12	2.60	4.50	2.23

<sup>1</sup>N<sub>I</sub> = 235; N<sub>II</sub> = 225. All variables scored so that high values indicate high values on construct. Turnover was coded 1 = stay, 2 = leave.

Table 2

Intercorrelations Among Turnover and Attitude Measures for  
Sample I and Sample II<sup>1</sup>

<i>Behavioral Withdrawal</i>	1	2	3	4	5	6	7	8	9
1 Turnover	---	-32	20	34	-50	-51	66	27	66
<i>Career Mobility</i>									
2 Age	-43	---	19	-08	20	26	-30	-12	-29
3 Tenure	-08	55	---	13	-23	-23	17	05	11
4 Chance of obtaining alternative job	16	-10	-02	---	-33	-29	29	04	33
<i>Satisfaction</i>									
5 JDI Work	-47	34	07	-15	---	59	-56	-26	-57
6 General satisfaction	-38	25	-01	-27	63	---	-69	-23	-61
<i>Withdrawal Cognition</i>									
7 Think of quitting	58	-39	00	02	-64	-64	---	27	78
8 Intention to search	32	-12	00	09	-14	-14	25	---	29
9 Intention to quit	71	-49	-12	-04	-56	-51	67	24	---

<sup>1</sup>

$r_{.05} > .14$ ;  $r_{.01} > .20$  two-tailed test for  $N > 225$ . Decimals are omitted.

Sample I correlations are below diagonal,  $N=235$ ; Sample II correlations are above diagonal,  $N=225$ .

Table 3  
Variance Increments From the Addition of Remaining Variables  
to Prediction of Turnover With Several Possible Models

Model		Remaining Variables				
		$R^2_{\text{model}}$	$r^2_{\text{cross-validity}}$	career mobility	satis- faction	cognition
career mobility	predicted <sup>1</sup>				+	+
	sample I	23** <sup>2</sup>	22		10**	32**
	sample II	25**	19		13**	28**
satisfaction	predicted			+		+
	sample I	23**	30	10**		31**
	sample II	32**	22	07**		18**
cognition	predicted			0	0	
	sample I	54**	47	01	00	
	sample II	49**	50	04**	01	
career mobility	predicted					+
+ satisfaction	sample I	33**	37			22**
	sample II	39**	31			15**
career mobility	predicted				0	
+ cognition	sample I	55**	50		00	
	sample II	53**	51		00	
satisfaction	predicted			0		
+ cognition	sample I	54**	47	01		
	sample II	50**	49	03**		
career mobility	predicted			---	---	---
+ satisfaction	sample I	55**	50			
+ cognition	sample II	54**	51			



Table 3 (continued)

<sup>1</sup> "+" implies prediction of a significant contribution in variance.

"0" implies prediction of no additional contribution in variance.

<sup>2</sup> \*\*  $p < .01$ ; decimals are omitted.

Figure Captions

Figure 1. The Mobley, Horner and Hollingsworth (1978) Turnover Model

